

**Conference on Effectively Restoring Ecosystems
22-24 August 2000, St. Louis, Missouri**

BACKGROUND

Session: Breakout 1A

Topic: Watershed Planning Case Studies

Moderator: George Strain, CESAJ

Recorder: Russ Reed, CESAJ

Presenters:

- Stuart Appelbaum, CESAJ
- Dan Johnson and Don Jorgensen, CEMVR
- Karen Rippey, CESP

Objective: Present three watershed planning efforts that the Corps of Engineers has initiated. These presentations will provide conference attendees a broad range of watershed planning issues that have arisen in this rapidly growing field.

Description: This session included presentations of three Corps of Engineers watershed planning studies that provided conference attendees a broad range of watershed planning issues. The issues presented during the presentations included:

- Use of the water resources in a manner that is sustainable, taking into account ecosystem restoration protection, economic development, and social well-being.
- Coordinated planning and management of water and related land resources by the responsible federal, tribal, state or local government.
- Interagency cooperation, including cost-shared collaboration on initiatives that incorporate local, tribal, regional, and national water resources management goals.
- Consideration of adaptive management.
- Leveraging resources and integrating programs and activities within and among civil works programs, and with other federal, tribal state and non-governmental organizations, to improve consistency and cost effectiveness.
- Identification of future water resource use demands, including local, tribal, regional, and national goals.
- Use of interdisciplinary teams to include a wide range of engineering and scientific expertise, as well as skills in public involvement, geographic information systems, alternative dispute resolution and other skills.
- Public input to watershed resources development.

HIGHLIGHTS

Policy Guidance Letter #61 provides the policy for applying a watershed perspective to the Corps Civil Works planning process. Watershed planning provides a unique opportunity for the Corps to achieve its ecosystem restoration directive. Corps watershed planning studies are generally multi-purpose and multi-objective and must accommodate flexibility in the formulation and evaluation process. The outcome of these watershed studies vary considerably but generally involve development of a recommended plan that requires actions to be undertaken by various partners and stakeholders in order to achieve the needs and opportunities.

**Central and Southern Florida Project Comprehensive Review Study,
Everglades Restoration
Stuart Appelbaum, Jacksonville District**

Authority: This study was authorized by Section 309(l) of the Water Resources Development Act of 1992 (Public Law 102-580). This study is also authorized by two resolutions of the Committee on Transportation and Infrastructure, United States House of Representatives, dated September 24, 1992. Finally, The Water Resources Development Act of 1996 was enacted on October 12, 1996. Section 528 of the Act (Public Law 104-303) entitled “Everglades and South Florida Ecosystem Restoration” authorizes a number of ecosystem restoration activities and also provides specific direction and guidance for the Restudy.

Location: The study area encompasses approximately 18,000 square miles from Orlando to the Florida Reef Tract with at least 11 major physiographic provinces: Everglades, Big Cypress, Lake Okeechobee, Florida Bay, Biscayne Bay, Florida Reef Tract, nearshore coastal waters, Atlantic Coastal Ridge, Florida Keys, Immokalee Rise, and the Kissimmee River Valley. The Kissimmee River, Lake Okeechobee and the Everglades are the dominant watersheds that connect a mosaic of wetlands, uplands, coastal areas, and marine areas. The study area includes all or part of the following 16 counties: Monroe, Miami-Dade, Broward, Collier, Palm Beach, Hendry, Martin, St. Lucie, Glades, Lee, Charlotte, Highlands, Okeechobee, Osceola, Orange, and Polk.

Project Overview: The recommended plan includes the following structural and operational changes to the existing C&SF Project: 181,250 acres of surface water storage reservoirs with a capacity to store 1,543,270 acre-feet of water; Water Preserve Areas consisting of multipurpose water management areas in Palm Beach, Broward, and Miami-Dade Counties between the urban areas and the eastern Everglades; 300 aquifer storage and recovery (ASR) wells around Lake Okeechobee, in the Water Preserve Areas, and in the Caloosahatchee Basin capable of pumping as much as 1.6 billion gallons a day; 35,600 acres of treatment wetlands, known as Stormwater Treatment Areas (STAs); removing more than 240 miles of project canals and internal levees within the Everglades; storing water in two converted 11,000 acre limestone quarries in the Lake Belt region of northern Miami-Dade County; reuse of 220 million gallons a day of wastewater; and pilot projects. In addition, several studies are recommended to investigate additional improvements needed to support restoration, protection, and preservation of the south Florida ecosystem. These features vastly increase storage and water supply for the natural system, as well as for urban and agricultural needs, while maintaining current C&SF Project purposes. The Comprehensive Plan achieves the restoration of more natural flows of water, including sheetflow, improved water quality, and more natural hydro periods in the south Florida ecosystem. Improvements to native flora and fauna, including threatened and endangered species will occur as a result of the restoration of hydrologic conditions. This plan was designed to enlarge the region’s supply and improve the quality of fresh water, and to improve how water is delivered to the natural system.

Who is involved (key State, Federal, and Local Agencies):

Federal agencies:

- National Park Service
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- United States Geologic Survey
- Natural Resources Conservation Service
- U.S. Environmental Protection Agency

Native American Tribes:

- Seminole Tribe
- Miccosukee Tribe

State agencies:

- Florida Game and Fresh Water Fish Commission
- Florida Department of Environmental Protection
- Florida Department of Agriculture and Consumer Services

Local governments:

- Miami- Dade County
- Broward County
- Palm Beach County
- Martin County
- Lee County

Status : Record of Decision signed 1 July 1999. Legislation proposed by Administration for inclusion in the Water Resources Development Act of 2000.

Issues: Project recommendations founded on adaptive management principles. Interagency cooperation in ecosystem restoration planning. Public involvement throughout planning process.

Audience Questions:

Q: What is needed to do a better job to get stakeholders involved?

A: Message from HQ is important. May want to create MOU at HQ... FACA is a problem.

Q: How was web site developed?

A: It is run jointly with the project sponsor and is separate from the Corps server. This web site is funded through project costs.

Q: Where do we get funds to implement watershed projects with such limited dollars in the CAP.

A: Innovative approaches need to be surfaced to HQ to ensure you are not too far out of national policy.

**Whitebreast Creek Watershed Aquatic Ecosystem Restoration
Dan Johnson and Don Jorgensen, Rock Island District**

Authority - Section 206 of the Water Resources Development Act, (Aquatic Ecosystem Restoration)

Location - Whitebreast Creek watershed is located in south central Iowa encompassing portions of Clarke, Lucas, Warren and Marion Counties.

Project Overview- The 273,000 Acre Whitebreast Creek watershed lies within the Des Moines River drainage area, and outlets into Lake Red Rock, a Corps of Engineers Reservoir, just north of Knoxville, Iowa. This ecosystem restoration project will address restoration of the Whitebreast Creek Watershed to restore basic aquatic habitat hydrology that has been lost to modern land-use practices. The restoration practices proposed for this project include wetland ponds, in-stream pool and riffle complexes, and buffer/corridor zone creation along wetland and stream areas.

Who is involved? - The project sponsor is the Whitebreast Watershed Association. This association is comprised of the following political entities:

- Clarke County Board of Supervisors
- Lucas County Board of Supervisors
- Marion County Board of Supervisors
- Warren County Board of Supervisors
- Warren County Soil and Water Conservation District
- Marion County Soil and Water Conservation District
- Lucas County Soil and Water Conservation District
- Clarke County Soil and Water Conservation District
- Iowa Department of Natural Resources
- Iowa Department of Agriculture and Land Stewardship; Division of Soil and Water Conservation

The NRCS is also heavily involved as a project participant.

Project Status - The project is currently in the feasibility phase. The Ecosystem Restoration Report is scheduled for completion by the end of December 2000.

Issues - The primary issues of this cost shared project center around developing efficient procedures for Right of Way acquisition/crediting, crediting for work in kind, and developing an efficient structure for construction contracting that emulates the NRCS business process for similar projects. Successful partnering with the NRCS and working within their established organizational network in the agricultural community is key to the success of this project.

Audience Questions:

Q: Who will be local sponsor?

A: Whitebreast Creek Watershed Association.

Q: Programmatic EA will require supplemental EAs. This seems costly, what is your plan?

A: That was not presented properly. Report will include EA.

Q: Do you have a recommended plan? Or is this just a concept?

A: A standard design for a sub-basin will be prepared. This design will be applied to the other sub-basins. The recommendation also proposes that NRCS will do design for these projects through MOA which will reduce total project costs.

Q: Has this issue been raised to Division or Headquarters?

A: We are preparing for a review conference now.

**Russian River Watershed Management and Protection Study
Feasibility Phase
Karen Rippey, San Francisco District**

Authority –Committee on Public Works and Transportation of the United States House of Representatives, to review the report of the Chief of Engineers on the Russian River, California; and other pertinent reports, to review the effects of Coyote and Warm Springs Dam on the Russian River and its tributaries to determine whether modifications of the recommendations contained therein are advisable at the present time, in the interest of environmental protection and restoration, erosion control and streambank protection, ground water supplies, and other purposes.

Project Location - Russian River watershed is located in the coastal zone of Northern California within Sonoma and Mendocino Counties.

Project Overview – The 950,000 acres Russian River Watershed has a diversity of uses and environmental concerns. A 77 member Russian River Watershed Council (RRWC), comprised of four caucus groups (economic, environmental, public, and agency), has been formed to address the management of the watershed resources. The community based locally led RRWC is now in the process of fulfilling its mission statement:

The mission of the Russian River Watershed Council is to protect, restore, and enhance the biological health of the Russian River and its watershed through a community-based process, which facilitates communication and collaboration among all interested parties. Our primary goals are:

- 1) To ensure the recovery of the Russian River and its watershed to a condition such that the native wild anadromous fishery recovers to healthy and sustainable level:*
- 2) To ensure a strong, healthy, and diverse economy in the Russian River region: and*
- 3) To promote stewardship of the Russian River and its watershed by developing an informed and engaged citizenry.*

Who is involved? California State Resources Agency, Sonoma and Mendocino Counties, Environmental Protection Agency, National Marine Fisheries Service, California Department of Water Resources, California Department of Forestry, North Coast Regional Water Quality Control Board, California Department of Fish and Game, United States Fish and Wildlife Service, Mendocino Co. Inland Water and Power Commission, Sonoma County Water Agency, California Coastal Conservancy, Natural Resource Conservation Service, Gold Ridge, Mendocino County, and Sotoyome Resource Conservation Districts and the citizens of the Russian River watershed.

Status of Project - FCSA signed, June 2000

Issues that impact Corps ecosystem restoration policies:

- The State Resources Agency and the Corps of Engineers are jointly coordinating a community-based locally led watershed program to protect, restore, and enhance the environmental and economic values of the Russian River watershed. The watershed program is designed to enhance the values of the many existing efforts that are planned or underway by integrating these efforts into a cohesive, locally led watershed management program. This partnership may provide the foundation for other sources of funding including Federal, State, and local sources to achieve ecosystem restoration.
- Two Corps facilities, Warm Springs and Coyote Dams, require a Section 7 consultation with National Marine Fisheries Service and the Sonoma County Water Agency. The results of this consultation will lead to the RRWC supporting and funding the implementation of restoration features identified in the Section 7 report.
- The watershed program has been separated into two phases. Phase I is scheduled as a two year effort with the completion of a Phase II Plan of Action. The Phase II Plan of Action will provide specific information documenting the RRWC's mission and values, the watershed information system and data gap analysis, the basis for proceeding with the scientific and engineering detailed analysis of tasks identified in Phase I, and the justification for developing a restoration project to modify the dam's outlet structures.
- Phase II is three years effort culminating with a watershed management plan. The complexity of the tasks to be developed in Phase I require that there be continued widespread community involvement in the planning process. Information exchange between the RRWC, other stakeholders and responsible agencies will ensure ongoing public input to address the tasks relevant to the environmental and economic health of the watershed.
- The restoration measures identified by the RRWC, during Phase I will be refined and evaluated to identify a combination of conditions that most effectively achieve the multi-objective goals of the RRWC. The RRWC and other stakeholders will develop the watershed restoration measures with the necessary technical support.
- The RRWC and other stakeholders will assess and prioritize the multi-objective restoration measures for inclusion into the alternative plans. Alternative plan development will meet the goals and objectives of the RRWC to restoration and protection of the Russian River watershed.
- The watershed management plan will finalize the information developed through the detailed task analysis, the multi-objective restoration measures and the alternative plans to prioritize the goals and objectives of the RRWC and other stakeholders in the watershed. The watershed management plan will emphasis a sustaining process to address existing problems and concerns and provide a vehicle to deal with new ones if they arise.

Other Watershed Efforts:

The Feasibility Study for the San Pablo Bay Watershed Study, FCSA signed June 1999, and the Reconnaissance Study for the Napa Valley Watershed Study, expected FCSA signed November 2000 are also being developed by the San Francisco District. The San Pablo Bay watershed

study non-Federal sponsor is the State Coastal Conservancy. The Napa Valley watershed study non-Federal sponsor is expected to be the Napa County Flood Control District.

San Pablo Bay and Napa Valley watershed studies were authorized by Section 503 of WRDA 1996, Watershed Management, Restoration, and Development. Section 503 authorizes the Corps of Engineers “to provide technical, planning, and design assistance to non-Federal interests for carrying out watershed management, restoration, and development projects ...for the following purposes: 1) Management and restoration of water quality. 2) Control and remediation of toxic sediments. 3) Restoration of degraded streams, rivers, wetlands, and other waterbodies to their natural condition as a means to control flooding, excessive erosion, and sedimentation. 4) Protection and restoration of watersheds, including urban watersheds. 5) Demonstration of technologies for nonstructural measures to reduce destructive impacts of flooding.”

The feasibility studies will meet the objectives of Section 503 under the authority of the River and Harbor Act of 1962 (Northern California Streams Authority), Title 1, Sec 206, which states:

“The Secretary of the Army is hereby authorized and directed to cause surveys for flood control and allied purposes, including channel and major drainage improvements,..., in drainage areas of the United States and its territorial possessions, which include...: Sacramento River Basin and streams in northern California draining into the Pacific Ocean for the purpose of developing, where feasible, multi-purpose water resource projects...”

The studies will identify partnerships that determine the appropriate technical, planning, and design assistance necessary to implement restoration projects. The primary focus will be to improve ecological conditions and evaluate ancillary benefits, such as flood protection, erosion prevention, sedimentation management and pollution abatement. The identified projects may then be implemented independently of the watershed study using existing or new local, State or Federal programs.

The watersheds comprise the northern arm of the highly urbanized San Francisco Bay region with a mixture of land uses - agricultural, urban, and industrial, as well as the largest area of ecologically diverse lands in the San Francisco Bay area. The rich diversity of fish and wildlife habitat in the watershed provides the opportunity to protect and restore approximately 30,000 acres of wetland habitat plus hundreds of miles of riparian habitat.

Some of the current participants in study development include the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Bay Area Regional Water Quality Control Board, California Department of Fish and Game, Southern Sonoma Resource Conservation District, Resource Conservation Districts, San Francisco Estuary Project, San Francisco Estuary Institute, San Francisco Bay Joint Venture, and the Bay Institute.

During the study, the partners will coordinate with key stakeholders to evaluate and identify watershed restoration that may be implemented using public and/or private funds. This will support public-private partnerships that look to achieve landscape scale restoration of our ecological resources.

Audience Questions:

Q: How did partners get organized?

A: Russian River, they were already formed prior to us coming in. The other two projects had groups but were not well formed. Corps assisted the groups in forming a grass root effort.

Q: How do you take the outputs from your studies and put them into Corps traditional processes?

A: Not done yet. Expect recommendations to result in ecosystem restoration projects that will result in spin-off studies under different studies.